

# A NEW SPECIES AND NEW RECORD OF THE WATER-PENNY GENUS *PSEPHENOPS* (COLEOPTERA: PSEPHENIDAE) FROM COSTA RICA<sup>1</sup>

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**ABSTRACT:** Members of the genus *Psephenops* have not been recorded previously from Costa Rica. A new species, *Psephenops prestonae*, from Costa Rica is described and compared to *Psephenops maculicollis* Darlington (1936) described from Colombia and here reported from Costa Rica. A diagnosis of *Psephenops maculicollis* is given and the distinctive aedeagus of each species is illustrated.

The aquatic larvae of water-penny beetles are usually common throughout the year in shallow streams with sand, gravel, and rocky substrates and a moderately fast velocity. The riparian adult psephenids, however, are short lived, elusive, and not commonly collected, especially not in series. Consequently, a number of species of water-penny beetles have been described from one or only a few adult specimens, as is this new species. The single male of *Psephenops prestonae*, n. sp., was collected by Warren E. Steiner and companions J.M. Hill & S.E. Frye.

I collected seven specimens of *Psephenops maculicollis* Darlington (1936) in San Isidro, Costa Rica, in 1967 but have not previously reported on them.

These are the first species of water-penny beetles known from Costa Rica and bring the number of water-pennies known from middle America to eight.

## *Psephenops prestonae*, new species

Figures 1, 2

**Holotype** ♂ — Form and size: Body flattened, oblong; thorax narrowed anteriorly; elytra almost parallel sided, apices rounded. Length, 2.46 mm; greatest width, 1.26 mm.

**Color:** Covered with golden pubescence. Head black except genae behind eyes yellow brown. Maxillary palpal segments dark reddish brown. Labial palpal segments lighter reddish brown than maxillary palpus. Ventral surface of head dark reddish brown. Antennal segments all dark reddish brown. Pronotum black. Scutellum black. Elytron uniformly reddish brown. Prosternum dark reddish brown; mesosternum, metasternum, and abdomen blackish brown; hypomeron and epipleuron reddish brown. Coxae of all legs reddish brown; tibia and tarsi of all legs dark reddish brown.

**Head:** Frontal area shallowly depressed; punctures coarse, separated by ½ to 1 times puncture diameter. Clypeus almost on same plane as head. Labrum short, broad; shallowly emarginate apically. Eyes prominent, hemispherical. Antenna densely pubescent; extend-

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ing almost to base of pronotum; basal segment enlarged, 1/3 wider than and twice as long as segment 2; segment 3 about 1/3 longer than segment 4; segments 4—10 subequal; segment 11 slightly longer than segment 10. Maxillary palpus about 1/3 as long as antenna, 4 segmented; segment 1 shortest, about 1/4 as long as segment 2; segment 2, a third longer than segment 3; segment 3 about 3/4 as long as segment 4; segment 4 moderately flattened, swollen, with an elongate sensory area on apex. Labial palpus very small, 3 segmented; segments 1 and 2 short, stout, subequal in length; segment 3 much narrower and about 1/2 times as long as segment 2.

**Thorax:** Pronotum widest at base and about a third wider than long; discal area with moderately coarse and fine punctures intermixed; coarse punctures separated by 1/2 to 2 times puncture diameter; fine punctures separated by 1 to 3 times puncture diameter; disc moderately carinate on meson on posterior half and concave on each side of carina; base strongly bisinuate; anterolateral angles moderately rounded; posterolateral angles subacute; all borders narrowly rimmed. Scutellum subtriangular. Elytron widest slightly behind midlength; with fine and coarse punctures intermixed; fine punctures separated by 1/2 to 1 times puncture diameter; coarse punctures separated by 2 to 4 times puncture diameter. Prosternum short in front of procoxae. Prosternal process long and narrow, extending to midlength of mesocoxae, carinate on apex. Mesosternum with narrow, deep, longitudinal sulcus. Metasternum swollen, incised and concave between metacoxae; midline with narrow longitudinal sulcus on posterior two-thirds; shallowly and narrowly depressed on each side of midline. Leg with femur robust; tibia slender, slightly arcuate and slightly bent subapically. Protibia without distinct posterolateral denticle at apex. Tarsi with segments 1—4 broad, with dorsal surface pubescent and ventral surface densely pubescent. All legs with tarsal segments 1, 2, and 3 with large flat pubescent lobes. Tarsal claw moderately robust.

**Abdomen:** Sterna 5, 6, and 7 broadly subtruncate along posterior margins.

**Genitalia:** Trilobate and as illustrated (Figures 1 & 2).

**Female.** — Unknown.

**Type data.** — Holotype ♂: COSTA RICA: CARTAGO PROVINCE: Pejibaye, 24 Mar 1987, W. E. Steiner, J.M. Hill, S.E. Frye; deposited in the U.S. National Museum of Natural History, Smithsonian Institution.

**Etymology:** The specific epithet *prestonae* is named for Emily D. Preston, presently Director of the Stony Brook Nature Center and Sanctuary in Norfolk, Massachusetts, in appreciation of her strong interest in conservation activities.

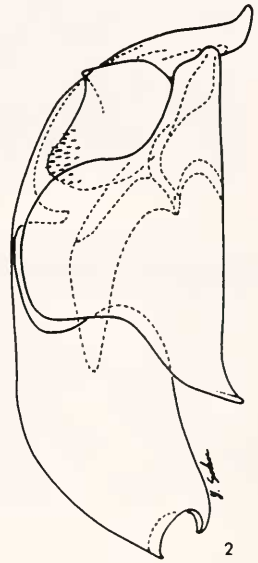
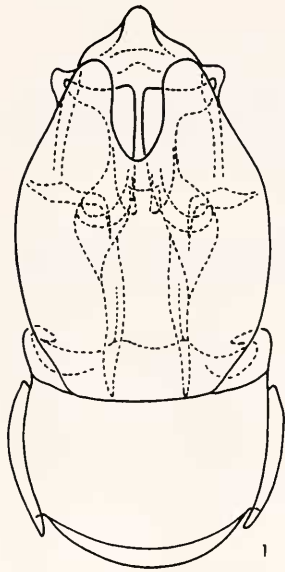
The completely rimmed pronotum, the protibia without an apical posterolateral denticle, and the distinctive aedeagus of *Psephenops prestonae* (Figures 1, 2) will distinguish it from the similar *P. maculicollis*.

### *Psephenops maculicollis* Darlington, 1936

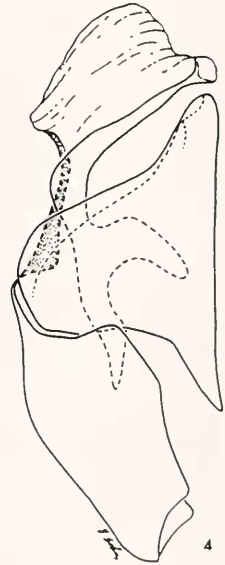
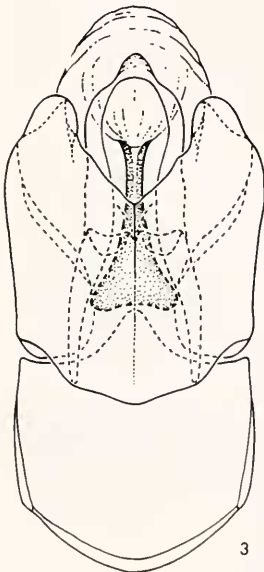
Figures 3, 4

**Diagnosis:** Head black. Pronotum reddish yellow, darker across base; with large, round shining, piceous mark on disc extending from apex to a point 2/5 from base and extending as a fine line on carina on meson almost to base; narrowly rimmed laterally and posteriorly. Scutellum reddish brown. Protibia with distinct, apical, posterolateral denticle. Aedeagus as illustrated (Figures 3, 4).

**Specimens examined:** COSTA RICA: SAN JOSE: San Isidro (1 mi S), Rio General, 1 July 1967, Paul J. Spangler, 6 ♂, 1 ♀; deposited in the National Museum of Natural History, Smithsonian Institution.



0.1mm



0.1mm

Figures 1 and 2. *Psephenops prestonae*, new species, holotype, aedeagus. 1, ventral view; 2, lateral view.

Figures 3 and 4. *Psephenops maculicollis* Darlington, aedeagus. 3, ventral view; 4, lateral view.

**ACKNOWLEDGMENTS**

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**LITERATURE CITED**

**Darlington, P.J.** 1936. A List of the West Indian Dryopidae (Coleoptera), with a New Genus and Eight New Species, Including one from Colombia. *Psyche* 43(2-3):65-83, 11 figures.

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